

Claims

I claim:

Claim 1. A protective barrier device for protecting frangible portions of a structure from wind force and wind born objects comprising at least one panel of flexible mesh material with a burst strength greater than 61.3 psi and an interstice size preventing passage of wind born objects greater than 3/16 inch diameter, approximately, said panel including a peripheral hem adapted to secure said panel to said structure whereby said panel is spaced apart from said structure a minimum deflection distance to allow for deceleration of objects impacting said panel before the objects impact the frangible portions of said structure.

Claim 2. A protective barrier according to claim 1 wherein said panel is a textile formed from synthetic threads.

Claim 3. A protective barrier according to claim 2 wherein said textile is resistant to ultra violet, biological, and chemical degradation.

Claim 4. A protective barrier according to claim 2 wherein said textile is polypropylene.

1           Claim 5.   A protective barrier according to claim 2  
2 wherein said textile is vinyl-coated polyester.

3  
4           Claim 6.   A protective barrier according to claim 1  
5 wherein said panel is transparent.

6  
7           Claim 7.   A protective barrier according to claim 1  
8 wherein said panel includes a superposed layer of continuous  
9 film.

10  
11          Claim 8.   A protective barrier according to claim 1  
12 wherein said peripheral hem has a plurality of releasable  
13 fasteners, some of said fasteners adapted to attach to ground  
14 anchors to secure said panel spaced apart from said structure.

15  
16          Claim 9.   A protective barrier according to claim 1  
17 wherein said barrier includes a plurality of said panels, said  
18 panels having parallel edges adapted to be releasably  
19 connected, said edges having cooperating releasable fasteners  
20 spaced therealong.

21  
22          Claim 10.   A protective barrier according to claim 9  
23 wherein said spaced fastenings are reinforced with a tape means  
24 attached to the material in a butterfly pattern.

1           Claim 11. A protective barrier according to claim 10  
2 wherein said tape is polypropylene.

3  
4           Claim 12. A protective barrier according to claim 9  
5 wherein said spaced fastenings are set in from an edge of  
6 said curtain means to cause said edge to extend past inset  
7 fasteners to eliminate any gap that may otherwise exist between  
8 the edge and an attaching means.

9  
10          Claim 13. A protective barrier device for protecting  
11 frangible portions of a structure from the force of wind and  
12 wind born objects comprising at least one panel of flexible  
13 mesh material having a maximum deflection of approximately 20%  
14 before failure and air permeability of approximately 250 cfm at  
15 a wind force of 1 inch Hg., said panel having an upper edge and  
16 a lower edge, said upper edge adapted to attach to said  
17 structure and said lower edge adapted to attach to the ground  
18 in such a manner to provide a minimum deflection distance  
19 between said structure and said panel greater than said maximum  
20 deflection distance of said panel.

21  
22          Claim 14. A protective barrier according to claim 13  
23 wherein said minimum deflection distance is calculated  
24 according to the steps of:

1       dividing the impact test force by the failure force of  
2       said panel to obtain a fraction, the quotient must be less than  
3       or equal to 1 for the panel to be acceptable;

4       multiplying said fraction by the known stretch of said  
5       panel at failure to obtain a stretch factor;

6       multiplying said stretch factor by the span distance of  
7       said panel to obtain a resultant measurement of stretch;

8       adding said resultant measurement of stretch to be added  
9       to said span distance to obtain a sum;

10       dividing said sum by 2 to form the hypotenuse of a right  
11       triangle, the known side of the right triangle is the span  
12       length divided by 2;

13       subtracting the square of the known side from the square  
14       of the hypotenuse to obtain the square of the maximum  
15       deflection;

16       calculating the square root of said square to obtain a  
17       final measurement as the minimum distance said panel is mounted  
18       from the frangible portion of said structure being protected.

19  
20       Claim 15. The protective barrier according to claim 14  
21       including a step of allowing for wind pressure comprising;

22       adding the resultant cumulative pressure calculated on a  
23       length of said span and on the maximum wind speed to be allowed  
24       to said impact test force obtaining a net sum;

1       substituting said net sum of said two forces for said  
2 impact test force.

3  
4       Claim 16. The protective barrier according to claim 13  
5 including a step of allowing for curtain means attachment  
6 comprising:

7       adding a slack distance to said final measurement, said  
8 slack distance solely as a result of anchoring slack, said  
9 minimum distance being the sum of said slack distance and said  
10 final measurement.